RESPONSE TO COMMENTS ON
DRAFT REMEDIAL DESIGN AND DESIGN BASIS REPORT FOR PARCEL C
HUNTERS POINT NAVAL SHIPYARD, SAN FRANCISCO, CALIFORNIA
MARCH 2011

Comments from:
AMY D. BROWNELL, P.E., Environmental Engineer, San Francisco City and County Department of Public Health, Environmental Health Section, Hazardous Waste Program – May 1, 2012

Comment Number	Section/ Page	Comment	Response
Specific Comments on the Draft Design Basis Report			
26.	**DBR, Section 5.1.1.7, Surface Restoration**	This section states the "Navy's radiological contractor, as part of the radiological removal action, is removing sewer and storm drain lines across Parcel C and constructing drainage swales in their place." Please provide a cross section or detail that specifies how the drainage swales will be constructed and a description of how they will be maintained.	Storm drain removal has been ongoing in Parcel C as part of the radiological removal action for several years. Drainage swales are being installed in the former storm drain locations. Photos 2 and 22 in Appendix A show completed swales in Parcel C. Reference to these photos will be added to the sentence discussed in this comment. Inspections and maintenance of drainage swales will be included in the cover maintenance plan in Appendix D. Prepared drainage swale cross-sections or as-built construction details can be incorporated as an attachment to the DBR/RD, if available.
29.	**DBR, Section 5.1.3.1, New Asphalt**	This section says that "Regrading and parcel wide design of storm drainage systems are not included; these are assumed to be performed as part of the radiological TCRA for storm drains" Most if not all of the site durable cover work will be performed after the storm drains are removed. Therefore, it seems appropriate to consider what sort of regrading or additional storm drain components will need to be installed while constructing the cover to ensure adequate drainage and avoid ponding around previous storm water inlet locations. Which existing outfalls does the Parcel C SW drain to, and how will water transition from surface flow to the large diameter outfall pipe?	Please also see the response to EPA Specific Comment 16. The DBR/RD will be revised to indicate that drainage patterns will be evaluated, and design of additional drainage features (such as V-ditches or additional swales) will need to be considered after the radiological time-critical removal action (TCRA) for storm drains and prior to installation of the durable covers. The additional drainage features (if needed) will then be installed at the time of durable cover installation. Specifically, the DBR/RD will require the following during remedy implementation: • Parcel C topographic survey to confirm post-TCRA drainage patterns • Design of additional drainage features (such as V-ditches or additional swales) as needed to ensure proper surface drainage and to avoid ponding • Specific requirements for maintenance of drainage features • Identification of outfalls where surface water in Parcel C is to drain (Figure 7 in the draft DBR shows approximate locations of existing stormwater outfalls)

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Comment Number	Section/ Page	Comment	Response
50.	**DBR, Appendix C, Design Drawings, Drawing C-11, Durable Cover Details, 5 Quay Wall Detail**	Where will the Quay Wall be constructed at Parcel C? Along the entire shoreline other than the dry docks? What will the edge condition at the dry docks look like? Please consider providing an additional figure with this information.	Detail 5 on Sheet C-11 will be renamed Sheet Pile Barrier for clarity. Where necessary for construction of the soil cover, sheet pile retaining walls may be proposed on portions of the waterfront in Parcel C where the existing seawall is in disrepair and the soils under the durable cover next to the seawall need improvement. Where the seawall is in good condition and soils are stable, a sheet pile retaining wall would not be required. Design of seawall improvements or revetments is not a component of of the soil and groundwater remedies in the Final ROD. The Navy will meet soil and groundwater RAOs by implementing the components of the remedies. Groundwater remedy components include ZVI, ISB, and ICs. (See also the response to EPA General Comment 10.) For the purposes of the DBR/RD, the durable cover will be completed up to a redwood footer that will be installed along the existing seawall. Additional geotechnical analysis of existing seawalls and surrounding soils ultimately will be necessary to provide a formal design of seawall upgrades. The RD currently includes an example detail for such an upgrade using a sheet pile barrier, consistent with the remedial design at Parcel B.
1. 51	**DBR, Appendix D, Soil Cover Maintenance Plan**	The maintenance plan for the vegetative soil cover appears adequate however there is no maintenance plan for the portion of Parcel C to be covered by asphalt and/or concrete. Please consider whether a maintenance plan is required for these areas. Appendix A, Inspection and Repair Procedures has some inspection items for areas other than vegetative soil cover but is not complete for all areas.	Please also see the response to CCSF Department of Public Works (DPW) Specific Comment 54. The O&M plan will be expanded to include each element of the durable cover (asphalt, concrete, soil cover, and drainage swales). Appendix G of the Draft DBR/RD (UFC – Asphalt Crack Repair) and Appendix H (UFC – Concrete Repair) will be moved to become appendices of the O&M plan. The revised O&M plan will refer to these appendices for details regarding inspections and repairs as they relate to asphalt or concrete.

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Comment Number	Section/ Page	Comment	Response
54.	**DBR, Appendix D, Soil Cover Maintenance Plan, Section 2.0, Inspection, Maintenance and Repair of Durable Covers**	Since this document is only describing Vegetative soil cover maintenance then either this title needs to be changed to "Repair of Vegetative Covers" or you need to add a lot more sections and descriptions for repair of all the durable covers including concrete and asphalt.	New Section 2.4, Asphalt and Concrete Cover, will be added to the maintenance plan . The content of this section will include a general inspection schedule. The current DBR Appendices G and H will be pulled into this maintenance plan as appendices B and C. The new Section 2.4 will reference these appendices for details regarding repair or replacement of the asphalt/concrete cover. The current Appendix A in the maintenance plan will be modified to include elements related to asphalt/concrete.

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AMY D. BROWNELL, P.E., Environmental Engineer, San Francisco City and County Department of Public Health, Environmental Health Section, Hazardous Waste Program – May 1, 2012

Comment Number	Section/ Page	Comment	Response
Specific Comments on Appendix B, Draft Land Use Controls Remedial Design (LUC RD)			
12.	**LUC RD, Section B4.1, Page B4-2, Land Use Objectives, item 3) e)**	This item states that "Five existing enclosed structures in Parcel C are included in the ARIC for VOC vapors (Building 134, 214, 231, 272 and 281)." Does this mean that none of the other buildings are included in the ARIC for VOCs? This seems to contradict the second paragraph of Section B3 that states that eight SVE areas are subject to the ARIC for VOCs and the ROD that states that the whole parcel is subject to ARIC for VOCs. We are appreciative that the Navy is refining the ARIC for VOCs and will continue to refine it during future soil vapor sampling work. Can we suggest that you write some placeholder wording for areas that are included in the ARIC for VOCs until it comes time to publish the final version and then you specify the details at that time based on the status of the soil vapor sampling at that point in time?	This section will be revised to refer to both VOCs and semivolatile organic compounds (SVOCs) to be consistent with the ROD (page 61, top paragraph). Also in accordance with the ROD (page 56, last paragraph) and with the May 19, 2009, meeting attended by the Navy, U.S. Environmental Protection Agency (EPA), DTSC, and CCSF, as well as with the 2010 soil data gap investigation; these five buildings were identified as having COCs above RGs and/or above the Corrective Action Plan (CAP) Tier 1 criteria for soil, none of which present a threat to human health as long as the building foundations remain in place. The ROD (page 61, first paragraph) states, "Initially, the ARICs (for VOCs/SVOCs) will include all of Parcel C." The ROD (page 56, third paragraph) states that SVE will be utilized as a source reduction measure in areas where VOCs are present and soils are amenable to SVE. The ROD (page 61, first paragraph) further states: *The ARICs for VOC and SVOC vapors may be modified by the FFA signatories as the soil contamination areas and groundwater contaminant plumes that are producing unacceptable vapor inhalation risks are reduced over time or in response to further soil, vapor, and groundwater sampling and analysis…* Therefore, both the building foundations and the SVE areas are included as ARICs initially; however, based on remediation or future sampling showing risk reduction, these discrete areas could be removed from Parcel C ARICs.

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COMMENTER, U.S. Environmental Protection Agency, Date

Comment Number	Section/ Page	Comment	Response
General Comments:			
1.		This document presents numerous needs for "pre-remediation sampling of soil gas and groundwater". Typically, this document would thus be a Preliminary Design, then the Final Design would be based on the results. However, this document does not even provide any specific details regarding the additional delineation sampling. Please provide more details throughout on the Preliminary Design (or Pre-Remedial as this document calls it) Sampling. There is enough data and analysis to support the technologies and general design approach for the remedial action but again, a typical RD provides a much higher level of detail in the Final Design. EPA will accept this document moving to final before all the sampling is completed, but please make it clear that the final design details will be provide in the Remedial Action Workplan.	Pre-remediation investigation has been completed and technical memorandums summarizing the investigation results will be included with the DBR as an attachment. A sentence will be added to state that some design details will be finalized in the RAWP.
2.		Section 2.9 states that monitoring will be implemented as needed to assess MNA progress; however, a design is required to implement MNA. The guidance document Performance Monitoring of MNA Remedies for VOCs in Groundwater, EPA/600/R-04/027, April, 2004 (Performance Monitoring of MNA Guidance) should be consulted to ensure that the proposed performance monitoring well network is appropriately robust to represent a design monitoring network capable of documenting MNA (available online at: http://www.epa.gov/nrmrl/pubs/600R04027/600R04027.pdf). Please revise the Draft RD/DBR to provide the level of detail necessary to implement the selected MNA RA for Parcel C.	In the Draft Final RD, Drawing C-14 will be split into three drawings—one for RUC1, one for RUC2 and RUC4, and one for RUC5. Each drawing will include existing groundwater monitoring wells, the known groundwater gradient from 2011 basewide monitoring, reference to geologic cross sections that present the subsurface lithology in each area, and the proposed additional groundwater monitoring wells to be used for monitored natural attenuation (MNA). The collective monitoring well network (existing plus new wells) for MNA will be designed based on recommendations from the referenced 2004 EPA MNA protocol.

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6.		The Draft RD/DBR does not clarify when the Sampling and Analysis Plan (SAP), Quality Assurance Project Plan (QAPP), Construction Quality Control (CQC) Plan, Waste Management Plan (WMP), Accident Prevention Plan (APP) or Site Specific Health and Safety Plan (SSHP) will be prepared and submitted for review and approval. These documents are mentioned in Sections 3.4, 3.6, 4.1.3, and 4.1.4, but the text does not indicate when the SAP, QAPP, CQC Plan, WMP, APP, or SSHP will be prepared and submitted. Please revise the text to clearly indicate when the SAP, QAPP, CQC Plan, WMP, APP, and HHSP will be submitted for review and approval, including decontamination methods and proposed locations. Typically, a key component of a Preliminary Design Report is a **project schedule**.	The documents listed in this comment will be prepared by the Navy's RACs. The schedule for implementation of remedial actions will depend on the completion schedule for the radiological removal action ongoing in Parcel C. As a result, the schedule for implementation of this RD has not been established yet.
7.		Based on Table 5, sampling has only been proposed for four months following ZVI injection and aerobic biological substrate injection. Three years of monitoring is typically needed to assess and address rebound. Please revise the Draft RD/DBR and Figure 10 (ZVI/ISB Optimization Process) to clarify how rebound will be assessed and propose a minimum of three years of monitoring.	Table 5 will be modified such that MNA monitoring will be performed for up to 3 years or until four quarters of monitoring results show that groundwater RAOs have been met, whichever comes first. Please also refer to the response to EPA General Comment 8. Rebound evaluation will be added to the decision flow chart (Figure 10), allowing additional ZVI/bio-injection events as appropriate. A new figure will be added, showing the endpoint of MNA.

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8.		Table 5 (Performance Monitoring Plan – Groundwater Remediation) lacks sufficient detail. For example, a. While Table 5 indicates the number of wells that will be sampled for each groundwater sampling event (i.e., baseline, post-ZVI injection, post-aerobic biological substrate injection, MNA), the table does not clarify which wells will be sampled or provide the ratio of sampled to total wells. b. Provide justification for only sampling Area C2-1 three times (at two weeks, six weeks, and 12 weeks following ZVI injection) compared to the six times wells in other areas will be sampled. c. Justify only sampling Area C2-1 once following completion of post-aerobic bioremediation substrate injection. All other areas include two quarterly events following completion of post-injection monitoring. d. Drawing C-14 (Preliminary Performance Monitoring Well Locations) in Appendix C (Design Drawings) does not provide remedial units (RUs) or areas labels. As such, areas on the figures that correspond to the entries in Table 5 are not easily located. Please revise Table 5 to provide sufficient detail including specific wells which will be sampled, the total number of wells in each area, justification for well selection (i.e., including information on what the well is designed to assess), and justification for sampling frequencies. Also, please include the area designators on Drawing C-14 so that it can be coordinated with Table 5.	The Performance Monitoring Plan will be revised for the Draft Final DBR/RD in response to this comment and as described in the response to EPA General Comment 7. RD Drawing C-14 will be split into three drawings that focus on RU-C1, RU-C2 and RU-C4, and RU-C5, as described in the response to EPA General Comment 2. Each drawing will identify the RUs and will show the portions of the plumes that will be treated using ZVI and/or bio-injection. (The treatment areas will be labeled.) Reference lines corresponding with geologic cross-sections from the FS will be represented on these drawings, which will facilitate selection of appropriate performance-monitoring wells. Existing monitoring wells will be shown and labeled, along with planned additional performance monitoring wells. The number and placement of additional wells will be based on recommendations in *Performance Monitoring of MNA Remedies for VOCs in Groundwater* (EPA/600/R-04/027), April 2004. Table 5 will be modified as follows: a. Specific wells to be sampled and the total number of performance monitoring wells for each treatment area will be indicated. b. The sampling schedule for Area C2-1 will be revised to be the same as other areas. c. See b above. d. Drawing C-14 will be modified per above.

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COMMENTER, U.S. Environmental Protection Agency, Date

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9.		Based on Table 5 and Drawing C-14, the Draft RD/DBR does not propose sufficient wells to monitor the groundwater remedy (e.g., to evaluate whether injections push contamination outside the treatment zones). The following represent several data gaps associated with the proposed performance monitoring at Parcel C and is not intended to represent an exhaustive list: a. Area C1-1 – No performance monitoring wells are proposed north or south of the ZVI/Bioremediation treatment area boundary. In addition, the network of existing and proposed performance monitoring wells located within and outside the MNA boundary does not appear sufficient. For example, no performance monitoring wells have been proposed for the area between Areas C1-1 and C1-3 and only one performance monitoring well is proposed northeast of the MNA boundary. b. Area C1-2 – No performance monitoring wells are proposed north or south of the ZVI/Bioremediation treatment area boundary. Due to the lack of performance monitoring wells to the north of Area C1-2, assessment of potential release(s) to San Francisco Bay will not be possible. c. Area C1-3 – No performance monitoring wells are proposed north, south or west of the Bioremediation treatment area boundary. IR28MW309 and IR28MW171 are too distant to effectively monitor whether contamination is pushed outside the treatment zones. Also, the performance monitoring well located east of Area C1-3 is approximately 60 feet beyond the Bioremediation treatment area boundary. d. Area C1-4 – No performance monitoring wells are proposed south of the treatment area boundary. Due to the lack of performance monitoring wells to the north of Area C1-4, an evaluation of potential release(s) to San Francisco Bay will not be possible.	More locations for performance monitoring wells will be added in response to this comment and as described in the responses to EPA General Comments 7 and 8. In selecting locations of wells for each treatment zone (i.e., each area targeted for ZVI, bio-injections, or MNA), recommendations from EPA's *Performance Monitoring of MNA Remedies for VOCs in Groundwater* (EPA/600/R-04/027), April, 2004, will be followed.

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		e. Area C1-5 – No performance monitoring wells are proposed to north or south of the Bioremediation treatment area boundary. The performance monitoring well located west of Area C1-5 is approximately 30 feet beyond the Bioremediation treatment area boundary. As a result, it does not appear that sufficient performance monitoring has been proposed to demonstrate treatment. f. Area C2-1 – With the exception of proposed performance monitoring well IR58MW25F, which is located northwest of the treatment zone, no performance monitoring wells are proposed north of the MNA treatment area boundary. g. Area C2-2 – Only one well is proposed to monitor the south and southwest sides of Area C2-2. h. Area C4-1 – Only 1 performance monitoring well is proposed between the east and west boundaries of the ZVI/Bioremediation treatment area and MNA treatment area. Since the first round of ZVI injections in the RU-C4 area may cause contamination to migrate beyond the treatment zone, additional wells are needed to evaluate whether contamination is pushed beyond the treatment zone by injections. The performance monitoring wells located north and south of Area C4-1 are approximately 60 feet beyond the ZVI/Bioremediation treatment area boundary. i. Area C5-1 – No performance monitoring wells are proposed east, south or west of the bioremediation treatment area boundary. The performance monitoring well located southeast of Area C5-1 is approximately 60 feet beyond the bioremediation treatment area boundary and no monitoring wells exist to the north, south of west of the Area C5-1 MNA treatment boundary. In addition, no performance monitoring has been proposed for the unlabeled MNA treatment area located south of C5-1.	

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		j. Area C5-2 – The only performance monitoring wells are in the northern part of this area and there are no proposed monitoring wells along the western, southern, and eastern Bioremediation/MNA treatment area boundary. k. Area C5-3 – No performance monitoring wells are proposed north or south of the Bioremediation treatment area boundary. The performance monitoring wells located east and west of Area C5-3 are approximately 60 feet beyond the Bioremediation treatment area boundary. In addition, no performance monitoring wells have been proposed to monitor the MNA treatment boundary south of Area C5-3. l. Area C5-4 – No performance monitoring wells are proposed north, south, east or west of the ZVI/Bioremediation treatment area boundary. In addition, no performance monitoring wells have been proposed to monitor the MNA treatment boundary east of Area C5-4. m. Area C5-5 – No performance monitoring wells are proposed north, south, east or west of the ZVI/Bioremediation treatment area boundary. In addition, no performance monitoring wells have been proposed to monitor the MNA treatment boundary west of Area C5-5.	

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		Sufficient wells are needed to monitor distribution and potential migration of substrates and contamination within and beyond the treatment areas. Note that when injections are done, radial flow should be assumed, so the full boundary of treatment areas should be monitored. It is recommended that a working group meeting be held to select well locations. Also, the RD/DBR should include a table that explains how each proposed well will meet remedy and data quality objective (DQO) requirements. Please revise the Draft RD/DBR to include a table which documents how each proposed and existing performance monitoring wells defines the plume area, demonstrates remedy achievement, and clarifies how each well meets the DQOs. Please also consider scheduling a working group meeting to select well locations.	The Draft Final RD will accomplish the following: Assume radial flow based on injections Pre-select locations for performance monitoring wells, which could be discussed in a working group meeting Provide a table that documents how proposed performance monitoring wells will meet remedy and DQO requirements.
10.		According to Section 5.1.3.1 (New Asphalt), details regarding the connection of the new asphalt to the Parcel C quay walls ("shoreline improvements") are including in Drawing C-11 (Durable Cover Details); however, the Quay Wall Detail provided in Drawing C-11 does not provide the level of detail necessary for the RD of the connection of the new asphalt to the Parcel C quay wall. Further, the reinforcement of the existing seawall design, shown in the detail, has not been discussed or referenced in the Draft RD/DBR and thus represents a data gap. Please revise the Draft RD/DBR to provide details and text regarding the connection of the new asphalt to the Parcel C quay walls. In addition, please discuss and reference the design details for the reinforcement of the existing seawall.	Design and construction of quay wall improvements are not elements of the soil and groundwater remedies described in the Final ROD. The soil and groundwater remedies meet RAOs identified in the Final ROD. For this RD, the report will include a recommendation that durable covers be installed up to a redwood header along the water-side project boundary. Details and text will be included in the Draft Final RD to describe the connection of asphalt to the redwood header. Please refer to the response to CCSF Specific Comment 50.
11.		Several RD components of the Remedial Design/Remedial Action Handbook, EPA/540/R-95/059, dated June 1995 (RD/RA Handbook) were not addressed in the Draft RD/DBR. For example, a preliminary schedule and Operation and Maintenance (O&M) requirements are not included. Please revise the Draft RD/DBR to include the RD components provided in the RD/RA Handbook.	The comment references the EPA RD/RA Handbook and specifically identifies preliminary schedule and O&M requirements. The schedule for implementation of soil and groundwater remedies is dependent on the completion schedule for the ongoing radiological removal actions, as described in the response to EPA General Comment 6. O&M requirements are already included in the DBR for post-injection monitoring, SVE system O&M, and durable covers. The O&M Plan for durable covers will be revised as described in the response to CCSF Specific Comment 51.

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12.		The Draft RD/DBR allows for modifications to each design component based on additional sampling and assessment that is scheduled to occur. The sequence for implementation of each of these investigative steps (some of which are occurring under other documents) has not been presented. A schedule showing the phasing and implementation of each investigative phase and remedial alternative initiation phases should be provided. Further, the impact of the additional sampling, assessments and investigative phases on the RD components should be discussed. Please revise the Draft RD/DBR to include a schedule for integration and finalization of each remedial component. In addition, please revise the Draft RD/DBR to clarify how the additional sampling, assessments, and investigative phases will impact the RD components.	After receiving this comment from EPA, the Navy agreed to delay further development of the RD until after the pre-design sampling is completed. The next version of the RD will include results of the pre-design sampling. RACs completed the investigation activities for RA. Technical memorandums presenting results of pre-design sampling will be summarized in the Draft Final DBR/RD or will be included as an attachment. As a result of the pre-design sampling, groundwater and soil treatment areas will be updated from those depicted in the Final ROD and Draft DBR/RD. RD drawings will be revised to reflect the modified treatment areas.
Specific Comments on the Draft Remedial Design and Design Basis Report for Parcel C			
12.	**Section 5.1.1.1, Excavation Areas, Page 5-1**	Please provide a table listing the COCs found at each of the excavation areas. Table 3 in Attachment C provides a complete listing of all COCs across the Parcel, but does not provide details for where they are found. In addition, the text states that COCs above RGs will be excavated, but it is not clear that all of the COCs listed in Table 3 with detections above the RG will actually be excavated.	A table listing the COCs found at each excavation area will be provided.

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16.	**Section 5.1.1.7, Surface Restoration, Page 5-6**	The Draft RD/DBR does not provide or reference any details regarding new drainage structures or drainage patterns. The text states that, "Drainage patterns are changing significantly as a result of the removal action. New durable cover surfaces will need to be constructed such that they are sloped to drain to these new drainage structures." Please revise the Draft RD/DBR to include details including diagrams of the new drainage structures and drainage patterns. This text contradicts Section 3.3, Stormwater Management Requirements which indicates that, "Subsurface drainage provisions and significant regrading of the site will not be developed in this RD because this would likely obstruct future redevelopment." Please revise the Draft RD/DBR to clearly indicate how surface restoration will be accomplished.	The storm drain removals and swale installations will improve surface water drainage at Parcel C by creating more low points across the parcel for drainage. The quoted sentence will be replaced with the following: *Surface water drainage patterns near the new swales are changing as a result of the removal action. Drainage patterns will need to be evaluated, and design of additional drainage features (such as V-ditches or additional/extended swales) will need to be considered before installation of durable covers.* Please also refer to the response to CCSF Specific Comment 29. The intent of Section 5.1.1.7 is to communicate the need to restore the durable cover following completion of any particular excavation. Excavations will take place prior to construction of the durable cover for the site. Excavation areas will ultimately require a new asphalt or concrete cover (not repair of existing surface). It will be stated in the Draft Final RD that excavation areas located in areas designated for repair of existing asphalt or concrete covers will be reclassified as needing a new cover following the excavation. In addition, all new construction for the Parcel C durable cover will take place simultaneously (as opposed to following each excavation), which will allow for consistency of construction and will facilitate grading/drainage considerations.
18.	**Section 5.1.3.4, Soil Cover, Page 5-17**	Please revise the Draft RD/DBR to provide and/or reference the previous subsurface investigations which substantiate that the existing soils at the site are suitable as an initial foundation for the soil cover, and settling of the existing material is not anticipated.	General soil stratigraphy is presented in geologic cross section Figures 2-7 and 2-11 from the FS (also included in Attachment B of the DBR/RD). Based on cross section G-G', the upper materials consist of gravel, sand with some clay, and silt. These materials are suitable to provide a foundation mat for the proposed soil cover because this area will not be subject to significant traffic or structural loads. Settlement is not anticipated for the proposed soil cover, provided the soils are properly compacted as required in the DBR/RD.

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20.	**Section 5.1.3.4, Soil Cover, Page 5-19**	Measures that will be taken to control sediment migration during the period when soil cover vegetation is being established were not described in Section 5.1.3.4. Please revise Section 5.1.3.4 to detail measures that will be taken during the establishment period to control sediment migration.	The following text will be added to Section 5.1.3.4 to address temporary control of potential erosion until vegetation is established (from the California Department of Transportation *Standard Specifications for Erosion Control and Planting*, Section 20, May 2006): *Stabilizing emulsion shall be applied to prevent erosion until vegetation is established, and shall meet the following requirements:.* • *Stabilizing emulsion shall be a concentrated liquid chemical that forms a plastic film upon drying and allows water and air to penetrate.* • *Stabilizing emulsion shall be nontoxic to plant or animal life. In the cured state, the stabilizing emulsion shall not be re-emulsifiable. The material shall be registered with and licensed by the State of California, Department of Food and Agriculture, as an "auxiliary soil chemical."* • *Stabilizing emulsion shall be miscible with water at the time of mixing and application.* *A Certificate of Compliance for stabilizing emulsion shall be furnished to the Engineer*.

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Comments from:
RYAN MIYA, Senior Hazardous Substances Scientist, Department of Toxic Substances Control – May 5, 2011

Comment Number	Section/ Page	Comment	Response
Specific Comments on the Draft Remedial Design and Design Basis Report for Parcel C			
11.	**Section 5.1.3.2 – New Concrete. Last paragraph.**	The site-specific technical justification that was used as the basis for proposing a 7-inch-thick concrete pavement layer in traffic areas as well as a 4-inch-thick concrete pavement area in non-traffic areas should be provided. In other words, the document should demonstrate that the 7-inch thick concrete pavement in traffic areas, as well as a 4-inch thick pavement in non-traffic areas, will be adequate.	Standard Specifications and Plans from the CCSF DPW were referenced (Section 210 in Attachment F). Although no specific environmental technical justification is cited, standard concrete construction specifications are assumed to be adequate to break the exposure pathway to soil. Calculations will be provided in the RD for Spear Avenue and Lockwood Street only because anticipated traffic includes particularly large vehicles.
12.	**Section 5.1.3.4 – Soil Cover**	The site-specific technical justification that was used as the basis for proposing a 2-foot minimum clean imported fill soil cover should be provided.	The 2-foot thickness for a soil cover was presented in the Final FS and ROD with regulatory concurrence.
22.	**Figure C-11 – Durable Cover Details**	(c) The text next to the 6" aggregate base layer has the phrase "if needed" in the new pavement and new concrete section figures. Please specify the general conditions and criteria that will be used to determine if this aggregate base layer will be needed in a figure footnote.	A note will be added to Drawing C-11 in response to this comment stating that aggregate base is specified for areas of loose or soft soil conditions, or where rutting occurs during placement of durable cover.

RESPONSE TO COMMENTS ON
DRAFT REMEDIAL DESIGN AND DESIGN BASIS REPORT FOR PARCEL C
HUNTERS POINT NAVAL SHIPYARD, SAN FRANCISCO, CALIFORNIA
MARCH 2011

Comments from:
BILL BECKMAN, P.E., Hazardous Substances Engineer, Department of Toxic Substances Control – May 3, 2011

Comment Number	Section/ Page	Comment	Response
General Comments:			
2.		The DBR does not address the geotechnical issues associated with the site. The site is, to a large extent, characterized as random fill material, on bay mud, located in an active seismic zone, with close proximity to known active faults, and with a history of liquefaction events. Geotechnical issues have the potential to affect all aspects of remedial design, and final land use, and should be addresses in the DBR. A significant part of the proposed conceptual design relies on excavation, fill, and durable cover. Geotechnical considerations are particularly important to these components and should be discussed in the DBR. Load expectations, bearing capacities, slope stability, shoreline durability should also be presented. Inspection, analysis, and repair of existing piers should also be discussed.	Existing subsurface geological information and the report for adjacent Parcel B were used as a basis of design for the DBR and are adequate for the design of the components of the remedial action. The remedy components (shallow excavation, asphalt/concrete/soil covers, SVE, groundwater treatment, and ICs) do not require additional geotechnical work. A geotechnical investigation to evaluate seismic impacts, liquefaction, bearing capacity, and slope stability would be appropriate for a more extensive construction project or final site development.
Specific Comments on the Draft Remedial Design and Design Basis Report for Parcel C			
2.	**Section 5.1.1.7, Surface Restoration**	Analysis of drainage capacity and facilities should be included in the DBR. Alternatively, the DBR should identify the process by which such information will be incorporated into future Workplans insuring comprehensive coverage.	See the responses to CCSF DPW Specific Comment 29 and EPA Specific Comment 16. The need for drainage improvements is addressed with regard to the entire Parcel, not simply excavation areas, as discussed in Section 5.1.1.7. Excavations will be completed prior to evaluation of the need for additional surface drainage features and prior to installation of the durable cover

RESPONSE TO COMMENTS ON
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BILL BECKMAN, P.E., Hazardous Substances Engineer, Department of Toxic Substances Control – May 3, 2011

Comment Number	Section/ Page	Comment	Response
4.	**Section 5.1.3, Durable Covers**	Durable covers are the primary remedy proposed for Parcel C. Preceding and/or concurrent with other remedy technologies, durable covers (along with soil covers) are proposed for the entire surface of Parcel C. While other proposed remedy technologies may be dependent on parameters yet to be finalized, design parameters necessary for cover design appear to be essentially complete, subject to expected in-process modifications. The DBR should, therefore, include a preliminary cover design including plans, calculations, load and durability parameters, and preliminary cost estimates. This information will, in effect, establish and document the preliminary baseline specifications for the default remedy (covers) and will help to define design parameters for other remedy technologies (e.g., excavation and engineered fill).	A preliminary cover design plan is already included in the DBR/RD. Calculations, load, and durability parameters for portions of the durable cover that will experience traffic will be addressed, as discussed in the response to Ryan Miya (DTSC) Specific Comment 10. Cost estimates for the remedial action were included in the FS. No separate cost estimate for the remedial action was prepared, as described in the response to EPA General Comment 11. Excavation and engineered fill were addressed in the DBR/RD.